

REMARKS

Claims 1-18 and 20-25 are pending in the present application. Claims 16-18 are allowed. Claims 1-15 and 2025 are rejected.

The Examiner rejected claims 1-4² under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,889,856 (*O'Toole*). Claims 5-15, 20-25 are rejected under 35 U.S.C. 102(e) are being anticipated by U.S. Patent No. 6,671,373 (*Pang*). Regarding claims 9-15 and 20-25 they are rejected for the reasons stated in the rejection of claims 5-8. Applicants respectfully traverse this rejection.

The Examiner asserts that *O'Toole*, at col. 6, line 30 through col. 8, line 20 (and Figures 5 and 6), teaches the features of claim 1. Applicant respectfully traverses this rejection. Claim 1, among other things, calls for converting the DC component of the signal to a digital signal using the analog-to-digital converter employed to convert the voice component of the signal. Claim 1 further calls for adjusting a DC feed to the subscriber line based on the digital signal.

O'Toole is directed to central-office equipment for digital subscriber lines that use frequency-division multiplexing to share the telephone line with plain old telephone service (POTS) equipment. See *O'Toole*, at col. 1, lines 6 – 10. The Examiner asserts that *O'Toole* teaches the features of claim 1. The Applicants disagree. *O'Toole* at least does not teach adjusting a DC feed to the subscriber line based on the digital signal. The Examiner refers to Figures 5 and 6 in an attempt to sustain the rejection. These figures, however, do not support the

² In the introductory sentence of paragraph 1 of the Office Action, the Examiner appears to inadvertently state that claim 16 is also rejected. The Applicants believe this to be an inadvertent error for two reasons. First, this claim is not addressed in the body of paragraph 1. Second, the Examiner specifically clarifies that claim 16 is allowable on page 4.

Examiner's argument. To the contrary, Figure 6 (and the accompanying text) of *O'Toole* illustrates that the DC feed is not adjusted based on the digital signal.

O'Toole describes that DC feed in the line card 58 of *O'Toole* is performed by element 59. See *O'Toole*, 7:17-19 (describing that the DC current feed 59 provides the power to the phone line 20). Additionally, *O'Toole* explains, and as shown in Figure 6, that DC current feed 59 is connected on the same side of the circuit board as the A/D converter 44 (i.e., connected to the input side of the A/D converter 44). *Id.* at 7:36-38. Indeed, *O'Toole* explains that the analog part of the line card 58 ends at the A/D converter 44, after which the signal is converted to digital domain. *Id.* at 7:43-45. Clearly, Figure 6 shows that the DC feed 59 is before the A/D converter 44, and because DC feed 59 is what adjusts the DC feed to the telephone line according to the description in *O'Toole*, this reference at least does not teach adjusting a DC feed to the subscriber line based on the digital signal, as called for by claim 1. For this reason alone, claim 1 and its dependent claims are allowable.

Claim 24 and 25 are also allowable for at least one or more of the reasons presented above.

The Examiner asserts that *Pang* discloses the features of claims 5-15 and 20-25. The Applicants respectfully disagree. Consider claim 5, for example. Claim 5 is directed to a method for DC feed control for a line card. The method comprises determining if the line card is operating in a current limit region of a DC feed curve; synthesizing a curve in the current limit region of the DC feed curve; determining a loop voltage based on the synthesized curve; and applying the loop voltage to the subscriber line.

Figure 3 of the patent application shows a traditional DC feed curve employed by conventional line cards for DC feed control. The system described in *Pang* also uses this type of DC feed curve, as shown in Figure 3 of *Pang*. For reasons more fully described in the patent application, one or more embodiments of the present invention adjust DC feed to the subscriber line based on a curve synthesized (e.g., artificial curve) in the current limit region, as shown by line 405 in Figure 4 of the instant application. This “synthesized” curve is calculated, in one embodiment, using the method described in Figure 6 of the present application. As can be seen in Figure 4 of *Pang*, there is no synthesization of a curve in the current limit region; instead, the curve defined 320 is used to define the upper limit of the loop during operation and curve 325 is used to define the lower limit.

The text relied upon by the Examiner, namely the text at col. 4, lines 26 to col. 7, line 33, does not describe the features of claim 5 of the present invention. Rather, the cited text generally describes the operation of the device in Figure 2. Additionally, the cited text also does not teach or disclose determining a loop voltage based on the synthesized curve or applying the loop voltage (which is calculated based on the synthesized curve) to the subscriber line. Accordingly, for at least these reasons, independent claim 5, and its dependent claims, is allowable. Moreover, independent claims 9, 12, 20, and 23 also call for the “synthesization” feature that is completely missing from *Pang*. As such, these claims, and the claims depending therefrom, are also allowable for at least this reason.


In view of reasons present above, the pending claims are allowable. As such, reconsideration of the present application is respectfully requested, and a Notice of Allowance is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Houston, Texas telephone number (713) 934-4064 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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